

| L Number | Hits | Search Text | DB | Time stamp |
|----------|--------|--|---|------------------|
| 1 | 11857 | polyvinyl adj alcohol | USOCR | 2003/01/31 08:19 |
| 2 | 9382 | polarization | USOCR | 2003/01/31 06:32 |
| 3 | 149819 | film | USOCR | 2003/01/31 06:32 |
| 4 | 33 | dichroic adj ratio | USOCR | 2003/01/31 06:32 |
| 5 | 8203 | melt same (extruded or extrusion or extruding) | USOCR | 2003/01/31 06:33 |
| 6 | 10136 | retardation | USOCR | 2003/01/31 06:34 |
| 7 | 4825 | (polyvinyl adj alcohol) same film | USOCR | 2003/01/31 06:34 |
| 8 | 51 | polarization same ((polyvinyl adj alcohol) same film) | USOCR | 2003/01/31 06:34 |
| 9 | 0 | (melt same (extruded or extrusion or extruding)) and (polarization same ((polyvinyl adj alcohol) same film)) | USOCR | 2003/01/31 06:34 |
| 10 | 10 | retardation and (polarization same ((polyvinyl adj alcohol) same film)) | USOCR | 2003/01/31 06:35 |
| 11 | 73716 | stretching or stretched | USOCR | 2003/01/31 06:35 |
| 12 | 1004 | (polyvinyl adj alcohol) and (stretching or stretched) | USOCR | 2003/01/31 06:36 |
| 13 | 1695 | polarizer | USOCR | 2003/01/31 06:36 |
| 14 | 107 | (polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched)) | USOCR | 2003/01/31 06:36 |
| 15 | 78 | film and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched))) | USOCR | 2003/01/31 06:37 |
| 16 | 16 | retardation and (film and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched)))) | USOCR | 2003/01/31 06:37 |
| 18 | 587151 | water | USOCR | 2003/01/31 06:37 |
| 19 | 9513 | (polyvinyl adj alcohol) same water | USOCR | 2003/01/31 06:37 |
| 20 | 5245 | film and ((polyvinyl adj alcohol) same water) | USOCR | 2003/01/31 06:38 |
| 21 | 113 | (polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water)) | USOCR | 2003/01/31 06:38 |
| 23 | 61 | (stretching or stretched) and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water))) | USOCR | 2003/01/31 06:39 |
| 25 | 12 | retardation and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water))) | USOCR | 2003/01/31 06:49 |
| 26 | 25 | polarization adj film | USOCR | 2003/01/31 07:01 |
| 27 | 2 | (polyvinyl adj alcohol) and (polarization adj film) | USOCR | 2003/01/31 07:01 |
| 24 | 13 | (dichroic adj ratio) and ((stretching or stretched) and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water)))) | USOCR | 2003/01/31 07:04 |
| 22 | 15 | (dichroic adj ratio) and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water))) | USOCR | 2003/01/31 07:10 |
| 17 | 23 | retardation and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched))) | USOCR | 2003/01/31 08:19 |
| 28 | 0 | JP-2197638-.did. or JP-5337967-.did. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 07:16 |
| 29 | 0 | JP-2197638-.did. or JP-50337967-.did. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 07:16 |
| 30 | 0 | JP-2197638-.did. or JP-00337967-.did. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 07:17 |
| 31 | 2 | JP-2197638-.did. or JP-05337967-.did. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 07:32 |
| 32 | 188168 | casting or cast | USOCR | 2003/01/31 07:33 |
| 33 | 1218 | ((polyvinyl adj alcohol) same film) and (casting or cast) | USOCR | 2003/01/31 07:33 |
| 34 | 848 | ((polyvinyl adj alcohol) same film) same (casting or cast) | USOCR | 2003/01/31 07:33 |
| 35 | 12 | (dichroic adj ratio) and (((polyvinyl adj alcohol) same film) same (casting or cast)) | USOCR | 2003/01/31 07:34 |

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|----|---------|--|------------------------------------|------------------|
| 36 | 98596 | polyvinyl adj alcohol | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:21 |
| 37 | 172845 | glycerin or glycerol or glycerine | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:21 |
| 38 | 2752619 | water | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:21 |
| 39 | 4722 | (polyvinyl adj alcohol) same (glycerin or glycerol or glycerine) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:22 |
| 40 | 40132 | (polyvinyl adj alcohol) same water | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:22 |
| 41 | 9122 | (glycerin or glycerol or glycerine) and ((polyvinyl adj alcohol) same water) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:22 |
| 42 | 139375 | (glycerin or glycerol or glycerine) and water | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:23 |
| 43 | 17185 | (polyvinyl adj alcohol) and ((glycerin or glycerol or glycerine) and water) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:23 |
| 44 | 371951 | extruded or extrusion or extruding | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:23 |
| 45 | 4041 | ((polyvinyl adj alcohol) and ((glycerin or glycerol or glycerine) and water)) and (extruded or extrusion or extruding) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:24 |
| 46 | 4885 | retardation same (difference or value) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:24 |
| 47 | 6535 | retardation same (difference or value or rate) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:25 |
| 48 | 15 | ((polyvinyl adj alcohol) and ((glycerin or glycerol or glycerine) and water)) and (extruded or extrusion or extruding)) and (retardation same (difference or value or rate)) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:28 |
| 49 | 281060 | casting | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:28 |
| 50 | 1803 | ((polyvinyl adj alcohol) and ((glycerin or glycerol or glycerine) and water)) and casting | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:28 |

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|----|--------|---|------------------------------------|------------------|
| 51 | 8 | ((retardation same (difference or value or rate)) and (((polyvinyl adj alcohol) and ((glycerin or glycerol or glycerine) and water)) and casting) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:30 |
| 52 | 126678 | polarization or polarizer or polarizing | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:31 |
| 53 | 3630 | (polyvinyl adj alcohol) and (polarization or polarizer or polarizing) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:32 |
| 54 | 353 | ((glycerin or glycerol or glycerine) and water) and ((polyvinyl adj alcohol) and (polarization or polarizer or polarizing)) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:32 |
| 55 | 74979 | (glycerin or glycerol or glycerine) same water | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:32 |
| 56 | 152 | ((polyvinyl adj alcohol) and (polarization or polarizer or polarizing)) and ((glycerin or glycerol or glycerine) same water) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:33 |
| 57 | 34921 | dimethylsulfoxide | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:36 |
| 58 | 14 | ((polyvinyl adj alcohol) and (polarization or polarizer or polarizing)) and ((glycerin or glycerol or glycerine) same water)) and dimethylsulfoxide | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:39 |
| 59 | 74250 | (polyvinyl adj alcohol) and water | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:40 |
| 60 | 3316 | dimethylsulfoxide and ((polyvinyl adj alcohol) and water) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:40 |
| 61 | 21 | (retardation same (difference or value or rate)) and (dimethylsulfoxide and ((polyvinyl adj alcohol) and water)) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:41 |
| 62 | 2091 | (polarization or polarizer or polarizing) and ((polyvinyl adj alcohol) and water) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:41 |
| 63 | 106864 | LCD | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:41 |
| 64 | 265 | ((polarization or polarizer or polarizing) and ((polyvinyl adj alcohol) and water)) and LCD | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:42 |
| 65 | 216527 | stretching or stretched | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:42 |

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|----|--------|--|------------------------------------|------------------|
| 66 | 119 | ((polarization or polarizer or polarizing) and ((polyvinyl adj alcohol) and water)) and LCD) and (stretching or stretched) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:42 |
| 67 | 21629 | dichroic | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:42 |
| 68 | 60 | ((((polarization or polarizer or polarizing) and ((polyvinyl adj alcohol) and water)) and LCD) and (stretching or stretched)) and dichroic | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/01/31 08:50 |
| 69 | 36748 | glycerine or glycerol or glycerin | USOCR | 2003/01/31 08:51 |
| 70 | 2568 | (polyvinyl adj alcohol) and (glycerine or glycerol or glycerin) | USOCR | 2003/01/31 08:51 |
| 71 | 587151 | water | USOCR | 2003/01/31 08:51 |
| 72 | 2406 | ((polyvinyl adj alcohol) and (glycerine or glycerol or glycerin)) and water | USOCR | 2003/01/31 08:51 |
| 73 | 27129 | (glycerine or glycerol or glycerin) same water | USOCR | 2003/01/31 08:52 |
| 74 | 2081 | (polyvinyl adj alcohol) and ((glycerine or glycerol or glycerin) same water) | USOCR | 2003/01/31 08:52 |
| 75 | 62271 | extrusion or extruding or extruded | USOCR | 2003/01/31 08:53 |
| 76 | 358 | ((polyvinyl adj alcohol) and ((glycerine or glycerol or glycerin) same water)) and (extrusion or extruding or extruded) | USOCR | 2003/01/31 08:53 |
| 77 | 14362 | polarizer or polarization or polarizing | USOCR | 2003/01/31 08:53 |
| 78 | 4 | ((polyvinyl adj alcohol) and ((glycerine or glycerol or glycerin) same water)) and (extrusion or extruding or extruded)) and (polarizer or polarization or polarizing) | USOCR | 2003/01/31 08:54 |

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| 2 | 9382 | polarization | USOCR | 2003/01/31 06:32 |
| 3 | 149819 | film | USOCR | 2003/01/31 06:32 |
| 4 | 33 | dichroic adj ratio | USOCR | 2003/01/31 06:32 |
| 5 | 8203 | melt same (extruded or extrusion or extruding) | USOCR | 2003/01/31 06:33 |
| 6 | 10136 | retardation | USOCR | 2003/01/31 06:34 |
| 7 | 4825 | (polyvinyl adj alcohol) same film | USOCR | 2003/01/31 06:34 |
| 8 | 51 | polarization same ((polyvinyl adj alcohol) same film) | USOCR | 2003/01/31 06:34 |
| 9 | 0 | (melt same (extruded or extrusion or extruding)) and (polarization same ((polyvinyl adj alcohol) same film)) | USOCR | 2003/01/31 06:34 |
| 10 | 10 | retardation and (polarization same ((polyvinyl adj alcohol) same film)) | USOCR | 2003/01/31 06:35 |
| 11 | 73716 | stretching or stretched | USOCR | 2003/01/31 06:35 |
| 12 | 1004 | (polyvinyl adj alcohol) and (stretching or stretched) | USOCR | 2003/01/31 06:36 |
| 13 | 1695 | polarizer | USOCR | 2003/01/31 06:36 |
| 14 | 107 | (polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched)) | USOCR | 2003/01/31 06:36 |
| 15 | 78 | film and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched))) | USOCR | 2003/01/31 06:37 |
| 16 | 16 | retardation and (film and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched)))) | USOCR | 2003/01/31 06:37 |
| 17 | 23 | retardation and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched))) | USOCR | 2003/01/31 06:37 |

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| 14 | 107 | (polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched)) | USOCR | 2003/01/31 06:36 |
| 15 | 78 | film and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched))) | USOCR | 2003/01/31 06:37 |
| 16 | 16 | retardation and (film and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched)))) | USOCR | 2003/01/31 06:37 |
| 17 | 23 | retardation and ((polarization or polarizer) and ((polyvinyl adj alcohol) and (stretching or stretched))) | USOCR | 2003/01/31 06:37 |
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| 22 | 15 | (dichroic adj ratio) and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water))) | USOCR | 2003/01/31 06:39 |
| 23 | 61 | (stretching or stretched) and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water))) | USOCR | 2003/01/31 06:39 |
| 24 | 13 | (dichroic adj ratio) and ((stretching or stretched) and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water)))) | USOCR | 2003/01/31 06:39 |
| 25 | 12 | retardation and ((polarization or polarizer) and (film and ((polyvinyl adj alcohol) same water))) | USOCR | 2003/01/31 06:39 |

DERWENT-ACC-NO: 1994-031322
DERWENT-WEEK: 199404
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TITLE: Prodn of polyvinyl alcohol film suitable for optical components by film casting process - comprising flowing and spreading aq PVA soln over film casting part to form liq film, drying and stripping film from casting part

PATENT-ASSIGNEE: KURARAY CO LTD[KURS]

PRIORITY-DATA: 1992JP-0179334 (June 11, 1992)

PATENT-FAMILY:

| PUB-NO MAIN-IPC | PUB-DATE | LANGUAGE | PAGES |
|------------------------------|-------------------|----------|-------|
| JP 05337967 A B29C 041/12 | December 21, 1993 | N/A | 008 |

APPLICATION-DATA:

| PUB-NO APPL-DATE | APPL-DESCRIPTOR | APPL-NO | |
|--------------------------|-----------------|----------------|------|
| JP 05337967A 11, 1992 | N/A | 1992JP-0179334 | June |

INT-CL (IPC): B29C041/12; B29K029:00 ; B29L007:00 ; C08J005/18 ; C08L029:04

ABSTRACTED-PUB-NO: JP 05337967A

BASIC-ABSTRACT: A process for the prodn. of polyvinyl alcohol (PVA) film is characterised by controlling its water content under 10 wt.% at a stripping stage in a film casting process which comprises: (1) flowing and spreading an aq. PVA soln. over a film casting part to form a liq. film, (2) drying the liq. film and (3) stripping resulting dried film from the film casting part.

USE/ADVANTAGE - The prod. is suitable for optical components such as a polarising film, a phase contrast film, etc. because it has small local fluctuations of thickness and molecular orientation and a high max. drawing magnification.

In an example, an aq. PVA soln. containing 100 pts.wt. of PVA prep'd. by saponification of a polyvinyl ester, 12 pts.wt. of glycerine and 60 wt.% of water (on wet base) is fed to the die of a belt-type machine for film casting, flowed and spread over the moving belt driven by two rollers and dried by

heating up to 150 deg.C in a hot air stream for a period of 120 secs.
and
dried film is stripped with the roller. The dried film has a water
content of
9.0 wt.%.

CHosen-DRAWING: Dwg.0/4

TITLE-TERMS:

PRODUCE POLYVINYL ALCOHOL FILM SUIT OPTICAL COMPONENT FILM CAST PROCESS
COMPRIZE FLOW SPREAD AQUEOUS PVA SOLUTION FILM CAST PART FORM LIQUID
FILM DRY
STRIP FILM CAST PART

DERWENT-CLASS: A14 A32 A89

CPI-CODES: A10-E09B2; A11-B04C; A12-S06A;

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0229 0780 2006 2007 2008 2179 2198 2371 2372 2386 2413
2441 2509

2513 2590 2654 2677 2851 3240

Multipunch Codes: 017 03- 066 231 244 245 359 387 388 395 398 402 408
409 428

431 435 516 519 528 529 53& 57- 575 596 649 687 688 722

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1994-014178